

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF:

Inventor : Mitchell R. Swartz

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For: METHOD TO CONTROL REACTIONS  
INVOLVING ISOTOPIC FUEL  
WITHIN A MATERIAL USING  
ORTHOGONAL ELECTRIC-FIELDS

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**ABSTRACT OF THE DISCLOSURE**

The present invention relates to methods and systems to control reactions involving isotopic fuels within a material, such as hydrogen within palladium.

The method and apparatus uses at least two non-parallel electric-fields to control the loading into the material and redistribution of the isotopic fuel within the material.